

ITEMS OF INTEREST.

VOL. X.

PHILADELPHIA, JULY, 1888.

No. 7.

Notes from the Profession.

ANCIENT CROWN AND BRIDGE WORK.

DR. W. H. HART, HUDSON, N. Y.

In a dental work in my possession, by "S. S. Fitch, M. D., Surgeon-Dentist," published in 1829, I find on page 431, plates descriptive of artificial crown and bridge work, which reminds me of the patent crown and bridge work of the present day. The following are copies of some of the plates, with remarks of the author as to their manufacture and insertion:



Figure 1, is the insertion of two central incisors on a band just fitting the space, and hugging the opposing walls of the natural teeth.



Figure 2, is a pivot-tooth, quite similar to some of the patent arrangements, of the present day.

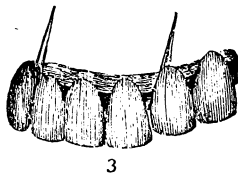


Figure 3, presents a case of bridge work, pure and simple. Six teeth are held in place by pivots in two sound roots.

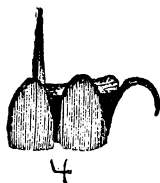


Figure 4, gives us two artificial teeth, fastened in by a pivot in a root, and a band round a natural tooth.

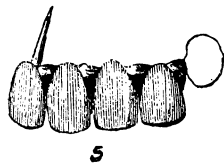
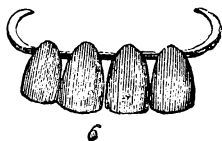
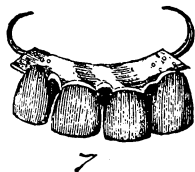


Figure 5, shows four teeth inserted by a pivot and a band.



In figure 6, we have four teeth inserted on the plan of gold band.



And Figure 7, shows us the four incisors placed on a narrow band of gold contoured to fit the gum, and two clasps to give it firmness.

On pages 456-459, Dr. Fitch gives the following instructions, which further confirm the fact that the construction of bridge work was a familiar process at that time.

“*Clasps.* This mode of fastening teeth is often adopted. The tooth, or if there is more than one, they are united so as to form an entire block, which are placed in the mouth so as to perfectly fill the space of the lost teeth, and having a clasp on each side, which are carried around the two teeth adjoining, one on each side.

“*Plates and Springs.* Having obtained the size of the vacancy in the circle of the teeth, made by the lost ones, we cut a plate of gold, rolled to the thickness of a wafer to the size of the vacancy; we then solder this plate on a spring of gold, which is bent so as to completely fit against the inner circle of the teeth and the jaws, and is carried back and terminates in clasps, which pass around the molar or bicuspid teeth, and are not exposed to view when the patient opens his mouth. The animal teeth which we wish to insert are sawed so as to be put on the gold plate, and are riveted on it with gold rivets, which keep them perfectly firm; the springs, by being carried back, so that the clasps shall embrace a posterior tooth, cause those lost to act on the tooth it embraces in a horizontal direction, and do not pull it out or loosen it. Plates, springs, and clasps made in this way, may be adapted to every circumstance of the teeth, and be firmly fastened if there are not more than two or three teeth in the jaw, or if there is one tooth and a stump of a tooth which is firm. They will be always perfectly neat, and if made of gold, will last during the life of the patient. A considerable neatness is required in fitting them, but this done, they are worn with the greatest comfort and satisfaction.

“The plates, instead of having the teeth fastened to them by sawing a groove into the teeth, are often prepared so as to rest in perfect apposition on the gum, and to the under side of the plate the artificial teeth are fastened.

“*Pivots.* These are passed into the stumps of teeth, having the crown of a tooth attached to them, and may be done in this way, so as to be perfectly firm and remain useful to the patient many years. We sometimes fasten several teeth united in a block on one or two stumps. The advantage of this mode over every other is, I believe, now generally admitted.”

Thus, Mr. Editor, we see that even as far back as 1829, bridge work was a familiar process; and still further back, in the work of Dr. John Hunter, we find similar dental knowledge. In fact, it is not long since Dr. Barrett gave us proof in the *Independent Practitioner*, of a piece of bridge work being found in the ancient tombs of Italy.

CEMENT LININGS VS. GUTTA-PERCHA FILLINGS.

DR. W. E. DRISCOLL, MANATEE, FLA.

Editor ITEMS:—Dr. J. Foster Flagg, before the New York Odontological Society, February 14, '88, renewed his claims of some ten years ago, that "just in proportion as a tooth *needs* saving, gold is the worst material that can be used," and *per contra*, "that gutta-percha when properly used is one of the most permanent of filling materials."

It is not probable that these propositions will ever be accepted by any large proportion of the dental profession. It is safe to say that the new departureists weakened their influence with the profession at the outset by claiming too much, thereby causing disappointment where they were fully trusted, or excited opposition that would not have arisen had their claims been less sweeping. Hence this last manifesto of Professor Flagg will probably excite a mere ripple as compared with the wave such hard blowing produced ten years ago. (No disrespect is meant by the figure.)

Dr. Flagg admits that gutta-percha always leaks, and that he found it advisable to line cavities of front teeth with oxychloride cement to prevent the "clouding" due to leakage of gutta-percha.

What an excellent opportunity presented at this point to show how incomparably superior gold is to any other known material for frail front teeth with the cement lining which he endorses, if used with gutta-percha. But it would have been a blow straight between the eyes in his position just stated that, "just in proportion as a tooth *needs* saving, gold is the worst material that can be used." In this case the tooth is supposed to be a frail front one, nothing but gold can so effectually protect the weak edges.

And if done as it should be, or to adopt Professor Flagg's proviso for gutta-percha: "That gold (instead of gutta-percha) when properly used, is one of the most permanent of filling materials."

It is no argument against the use of gold to say a large number of the profession are not expert gold operators. That argument applies to gutta-percha, as Dr. Flagg is careful to say, when he insists that it must be "properly used." To make my meaning a little clearer, I will say that in my judgment the gold cannot be so "properly used" for such operations in any other form as No. 60 cohesive foil. And I have little doubt that if many have tried lining thin walls of enamel with cement and covering with gold, and failed, it was largely due to an unfit form of gold. There are other essentials. An adhesive cement that will set quite hard, and "properly used." It is sufficient to compare one of these restorations with gold and cement with one of Dr. Flagg's gutta-percha fillings to convince an overwhelming majority of the profession that both of his propositions are entirely too broad; so

much so as to in some measure obscure the grain of truth on which his proposition rests.

Since he endorses cement linings, and also thinks so well of amalgam, though it leaks as a rule, and very disastrously as compared with gutta-percha, why does he ignore a combination of cement and amalgam? A great many cavities which we know from experience, the walls being very thin, will soon decay if filled with amalgam alone; yet, as he admits, will not leak with cement lining. Again, with a very adhesive cement, first placed in the cavity and the first pieces of a good gold and platina alloy pressed in while the cement is adhesive, will give anchorage sometimes impossible to attain otherwise.

Since Professor Flagg has given the matter so much study, it would be interesting to know his objections to this plan. It is hardly probable that he has never tried it. Yet it is difficult to see how he can condemn the plan after taking the position he has, in favor of cement linings.

Dr. Flagg speaks of a popular adaptation of the term "new departure" to politics, etc. The fact is, the term new departure was first used in political circles a year or two before it was applied to the *attempted* new departure in supplanting gold by cement, amalgams and gutta-percha.

Obtunding Sensitive Dentine.—Dr. Ottolengue in his paper read before the Central Dental Association of Northern New Jersey, gives his method of treating sensitive cavities as follows: Apply the rubber-dam, dry the cavity with bibulous paper, and then insert a pledget of cotton saturated with absolute alcohol, selected on account of its affinity for water; next direct a series of blasts of hot air to the cavity, persisting till the parts become whitened, or thoroughly dry, often taking as long as three minutes. It may be as well to mention that what is usually sold as a hot air syringe is not the best to use, from the temptation to make the application of the blast continuous, which will result in pain. It should be applied intermittently; remember that evaporation is what we are seeking, and not the heating up of the tooth, and this may be accomplished as well by stages as by continuous heat, since the supply of moisture is cut off by the dam. When satisfied that the water is evaporated, throw on a continuous spray of ether. This will at first, in about forty per cent. of cases, cause pain, which will, however, almost at once begin to lessen as the spray is continued, and in the end it will be found that all sensation will be controlled. The tooth may now be cut almost at will, and with no change in sensitiveness in consequence of entering the dentine, even to a considerable depth, for under-cuts, anchorages, etc.—*Ohio Journal*.

CONDITIONS OF SUCCESS.

DR. W. H. WILLIAMSON, BISMARCK, DAKOTA.

Financial success in any trade or profession comes as the result of definite rules, and may therefore be achieved by any man who learns the rules and possesses sufficient force of character to apply them. There is one qualification which should be observed, however, and that is this: *he must be proficient*. This is a necessary qualification, without which all rules must fail. But often, those who possess the highest proficiency and learning, fail to succeed financially. What then? The answer is: they have neglected the rules which govern financial success. There is a code of financial ethics in every profession which must be mastered and observed, to bring success in business. These rules may not be identical in all professions, for each profession is surrounded with an atmosphere of conditions peculiar to itself, but they are none the less definite and pronounced in each.

The minister meets and mingles with humanity on the plane of spirituality; the lawyer in the colder atmosphere of logic and law; the physician and the dentist in the atmosphere of all the pain and suffering to which the human family is heir.

It is to the dentist that I am writing to-day, and I therefore desire to address myself to a consideration of some of the rules which lie at the foundation of his success.

Financial success in your field of practice is commensurate with the amount of business you can command, other things being equal. This is commensurate with the degree of pleasure you can excite by your personal presence and surroundings, and with which you can touch the finer sensibilities of those with whom you meet.

If, therefore, you desire financial success, study the effects of the atmosphere of your personal presence and surroundings on those coming within your reach. If that atmosphere is sweet, fragrant and pure, it will stimulate to action the same elements in the world of society and business, and thus have its influence for good on your professional and business life.

What are some of the essential elements of this prolific atmosphere?

The answer may not be sufficiently vague or indefinite to be altogether pleasing, and it may not be sufficiently theoretical, ethereal or abstract to take the mind above the commonplace things of life into the empyrean altitudes of the theorist, but perhaps therein may consist its virtue and its reliability.

First: *Cleanliness* :—That this is akin to Godliness, was never more truthfully spoken than in its relation to our profession. Applying the term simply to our physical appearance, there are few things which more quickly gain for us the good opinion of others. Add to this its deeper

significance as applied to the finer organism of moral character, and you have the key which will admit you within the temple of success in your profession by giving you the hearts and affections of your patrons. Many a patient—more particularly among women—is driven from the most skilful dentist, by a dingy office, dusty, dirty furniture, the effluvia of an antiquated spittoon, or an untidy personal appearance.

If there is any one thing more obnoxious to a patient than all others combined, it is a foul breath. Many a good dentist has lost his custom from this unpleasant cause and has wondered why. But for the civilities and courtesies of good breeding, his patients would have told him the secret of his failure. The dentist whose practice necessarily bring him in close relation with the olfactories of his patients, cannot overestimate the importance of the most scrupulous attention to the condition of his teeth and stomach. One who smokes or chews tobacco can have little idea of the shock his presence may render to a delicately refined person. To avoid this unpleasant and unfortunate result, instead of chewing tobacco it is only necessary to *eschew* it.

Care in personal appearance cannot be omitted. To be successful, you need not wear a gold-headed cane and an eye-glass. You can appear professional and attractive with simple tidiness and good clothes.

The truth of this suggestion is aptly illustrated by the attorney who tested the proposition in his own profession. When his business lagged and he found himself with nothing to do, he would order a new suit of clothes of the finest quality. He would put them on and spend one day in walking where every one would see him. The next day would find him at his office, where, invariably he would be besieged with clients of the best class ready with their money to retain him as counsel in heavy litigation. He boasted that his reputation as a lawyer was built on his good clothes.

Good clothes are suggestive of a good business. They go much farther than we are willing to admit toward forming our estimate of even a stranger's abilities.

Another requisite qualification to success in our profession, is proper *advertisement*. This, however, does not mean that we should wear a forcep on our shirt front, or a filled tooth for a setting to our gold ring. This is simply barbarity mistaken for cunning, and is akin to the spirit that prompts the Indian warrior to wear at his belt the scalps of his victims. Do your advertising through legitimate channels. Your daily or weekly paper will reach many people, and if it contains a modest card from you it will be seen.

Attention to business cannot be emphasized too much as an element of success in our profession. The toothache as well as "time and tide"

waits for no man, and when it calls at your office and finds you out, it goes elsewhere for relief.

I have thus endeavored to suggest a few of the *little* things which we are most likely to overlook. It is the aggregation of little things that make our greatness or our failure. Each in its particular way is a silent force which we set in motion, and which will bring to us in its own time its true value.

HISTOLOGY AS A FINE ART.

Dr. F. Sanborn, Tabor, Iowa. Read before the Iowa State Dental Society, at Iowa City, May 1 to 4, 1888.

Within the memory of most of us, the microscope has presented a new world for our investigation.

The cell, with its indefinitely known nucleus, has long been known to anatomists; but its function, as an essential entity to development, physical life and health, was beyond their knowledge.

The microscope has opened up an entirely new field of study, of which the cell and its nucleus, its form, size, and function are prominent subjects.

The function of an organ is but the harmonious action of its cells.

Anatomy is the study of our bodily structure, with respect to its size, shape and consistency; its various parts, forms, number and relative positions.

Physiology embraces its activities.

Morphology treats of original form in the animal kingdom.

Histology is the study of the minute structure by the aid of the microscope.

Biology treats of the life, growth, action and reproduction of organic structure.

These various branches of science enable us to study the structure and nature of the ultimate parts of the body, so far as our powers of observation by the aid of powerful glasses extends.

Closely related to this is the study of the development of the various tissues and changes, which the various parts pass through as they develop from the germ, to its adult stage of existence.

Though not critically correct to embrace morphological physiology in our subject, we take that liberty.

It is a wonder to some of us, to see how necessary a part of an education these subjects have become. They constitute a part of the curriculum of our medical, dental, and to a modified extent, to our literary colleges. Like chemistry, this subject is so new and transitional, that the various authors are not yet agreed as to the proper nomenclature of the terms best calculated to express their ideas; often coining new words, and so common has this been the case, that our

lexicographers are left wonderfully behind in the race. We shall welcome the day that shall give us a speculum analysis of the shades of the meaning of the various new words used in professional literature. In this respect, surely, histology is a fine art.

The objects to be studied are also so minute, both in dental and medical histology, that it requires an expert to prepare the slides for the microscope, as well as to read them rightly, viewed under the highest powers of the instrument. Take for example a liver lobule $\frac{1}{25}$ of an inch in diameter, and dissect it so as to show in that space the terminal radicles of the hepatic artery, and the interlobular veins as they anastomose with the radicles of the intralobular branches of the sublobular vein, and lay bare the origin of the bile ducts.

Here is a plexus of four sets of vessels within a diameter of half a line.

The preparation of a tooth that shall show the enamel rods, the dental tubuli, the fibrilla that line these tubes, the interglobular substance, the lacune and canaliculi of the cement, and the still finer, to demonstrate the nucleus of the cell in the lacune.

It certainly requires as practical a hand, and as educated an eye to earn the renown acquired by Kulliker, Muller, Henle, Tomes, Beal, Stricker, Heitsman, and others, as a kindred talent has acquired with a chisel or brush.

Most of us find it difficult enough to "follow in the footsteps of our illustrious predecessors," and see what they have pointed out to us; while a large proportion of our profession "care for none of these things," for they can see "no form or comeliness in them." The labors of Leonal Beale have shown the nucleus as being the life, the "ego" of the cell; and that the functions of these cells are to form tissue from plasma, and fashion the various structures of our bodies. Surely, we are "fearfully and wonderfully made."

They, and they alone, repair all traumatic and other lesions, that may transpire through all the varied viscidities, incidents to a life-time; and, if from any cause the edges of a wound or ulcer become chronically indurated so as to prevent the cell nuclei from utilizing the plasma supplied by the vascular system, then the wound will not cicatrize.

The application of such knowledge to the teeth adds most wonderfully to our information of what would be otherwise as unintelligible as the Egyptian hieroglyphics are to an English student.

By the study of the histology of the teeth we, shall see the enamel organ is primarily developed from the columnar epithelium of the interdermic walls, and that their nuclei develop the enamel rods, which if properly formed, will make perfect enamel. In the calcification of these rods the bioplasts become calcified, too, and constitute the nuclei of the rods, so that there can be no further growth of the enamel.

These rods may be destroyed by caries, but can never be increased in size or changed in form, so that we never find secondary enamel. This is the reason why the craftsmen are dead, and in dying erected the enamel as a monument to their memory.

In the dentine it is otherwise; the bioplasts are the dental germ that construct the dental tubes from the periphery toward the center, maintaining open ways for further use in supporting vital action and keeping up repairs, and fortifying itself against disease, as it gradually thickens its walls, and increasing their density.

If decay shall slowly disintegrate these walls, or abrasion diminish their thickness, their bioplasts build secondary dentine to thicken them for self protection, and, under favorable circumstances, this is done even after the nerve has been exposed; but, if the nerve with its vascular companions are destroyed, there is never afterward any such repair. Fortunately the territory belonging to the domains of the bioplasts of the dentine, is not extended to the peridental membrane, but is bounded by the interglobular substance, so that the death of the tooth structure is limited to the dentine and enamel.

The cement is developed by a distinct class of bioplasts, whose territory is shared between the bioplasts of the interglobular substance, and those of the pericement, so that this part of the tooth may remain alive, and enable the otherwise dead tooth to do good service for years, if the other parts are properly cared for.

The cement is much more abundantly supplied with nutrient vessels than the other parts of the tooth, and for this reason it is the last to yield to death; but when it does, we have the Riggs disease with all its fearful effects.

The teeth of the proboscide are a fine illustration of the wise provisions of nature in supplying these animals with teeth on an entirely different plan. This class of animals are supposed to live a hundred years or more. The action of mastication by their ponderous jaws would soon wear away their teeth were it not that the crowns are made of alternate transverse bars of dentine and enamel, also, instead of the nerve with the accompanying vessels and bioplasts being like ours, they are placed in a grove at the base of the tooth between the roots, where there is freedom from pressure and accident. By this wise provision of nature the teeth are built from below as fast as they are abraded on the grinding surface. The incisive teeth of the rodents are developed at the roots as fast as they are worn off on the top.

The histological study of the nervous system has shown that the nuclei of the axiscylinder are vastly more numerous at the periphery than at any other part. This knowledge is important as applied to the nerve fibrils of the dental tubes, which on exposure by caries, causes

so much suffering in excavating and shaping a cavity. It enables us to save much of the pain by first excavating as near as possible to the origin of the exposed fibrils, and as far as possible from the sensitive periphery, or by applying an obtundant to paralyze them.

These are but illustrations to show how we may utilize our knowledge of Histology for the benefit of our patrons, in diminishing their suffering, and to enable us to understand the tissues we are operating on, and to adapt our skill to the necessities of the case.

Let us remember that an intelligent, well instructed brain imparts skill to the hand it directs, and without such skill dentistry ceases to be a profession, and sinks to the level of a trade. But with it, dentistry is not only a profession, but closely related to the fine arts.

IMPLANTATION.

DR. G. L. CURTIS, SYRACUSE.

While I am a convert to and a practical worker in this latest and most wonderful advancement in dental surgery—the implantation of natural teeth in artificial sockets—I recognize that some phases of the question are still in theoretical shape; but, on the conclusion of experiments which I have begun, I hope to lay before the profession a complete and conclusive demonstration of the points which at present are partly theoretical.

My experiments have extended over a period of seven months, and they were made under both favorable and adverse circumstances, also antiseptically and without the aid of a germicide. I have yet my first failure to record; not an unfavorable feature has appeared in any instance. Only one accident has attended my experiments. A patient who could not readily find a flatiron to crack nuts with determined to try her newly-implanted tooth. This she did, and succeeded in breaking off a part of it. In the first case, the original tooth had been lost six years. Atrophy of the alveolus and recession of the gums were marked. Seven months after the operation it was observed that the implanted tooth and surrounding tissues bore a healthy appearance. The process apparently had been reproduced and the gums restored to their natural condition. For six months previous to the examination the tooth had been in constant use. Cases numbers two and three were the implanting of a superior bicuspid and two molars, the latter being engrafted two weeks after the bicuspid. Thus the space between the cuspid and the wisdom tooth was filled. The teeth had been extracted seven years before, and the shrinkage of the process and the denuding of the contiguous roots were more decided than in the first case. As the articulating teeth in the lower jaw had elongated considerably, this

condition made up in part for the absorption. Consequently the process and gums have not been restored to their normal fullness. They have recovered sufficiently, however, to enclose the roots of the adopted teeth and to protect the cement of the remaining teeth. At this writing these teeth apparently are as firmly attached as any in the jaw, and they are doing all the work of mastication, owing to the mal-articulation of the teeth on the other side of the mouth. Case number four was seen two months ago, five months after placing the stranger tooth in position. It was then firm and healthy, and had been in constant use for four months. The fifth case was an operation done under unfavorable conditions. I looked at it two weeks ago and found it to be one of my best operations thus far examined. In all these cases neither pain nor discomfort has been experienced. The one thing to impress on the patient is that care must be taken not to use the implanted teeth till they are sufficiently firm. These teeth have been examined by many dentists and physicians, and with one accord they have acknowledged the success of the operation and pronounced the process of healing complete.

In December 13th, 1886, a superior bicuspid was so securely ingrafted that ligation was not resorted to. It exhibits the same happy results that characterize those previously commented on. The remaining operations have been done largely with the object of showing the mode of treatment to dentists and surgeons seeking light on this subject. They are of a date so recent that I cannot report further than to say that the first unfavorable sign has yet to develop, or the first complaint to reach me.

The initial feature of the operation which has marked it as one of the most wonderful surgical discoveries of the age, is the apparent resuscitation of what heretofore has been supposed to be dead cement. The placing of a tooth in a newly-made or artificial socket is in itself of no consequence, but the uniting of the two tissues till a normal state exists is the astonishing feature. The evidence goes to show that the apparently dead cement does develop life, and that implantation effects a complete and permanent restoration to usefulness of the lost organ. We may not be able to comprehend how this possibility of life is continued, yet at this time no other satisfactory explanation than that the cement has the power of resuscitation has been offered. It may be this union is formed by the attachment of the cement to the bone by the life element in the former tissue. It may be the formation of the bone extends into the cement and dentine, and completes the process of healing without any life as such existing in the cement. Again, it may be the restoration is due to the joint life and growth of both the bone and the cement. Does not this last theory look reasonable, in view

of the acknowledged tenacity of life possessed by any part of the tegumentary system? It is an established fact that the process of repair in bone is by granulation, and hence may we not look for a similar action in these implanted teeth? This, in implantation, is yet partly theory. We now, however, have implanted teeth which have been in their new relation sufficiently long for the completion of any process of healing. When one of these teeth is removed, with all its surrounding tissues apparently restored to a normal condition and subjected to microscopical examination, then we shall know accurately what condition the tooth is in and what processes actually have taken place. Such an investigation I have planned already, and I regret that the press of other duties has prevented me from finishing it in time to publish its results. This examination probably will result in showing whether the socket is invested with a new lining membrane, the condition of the cement, the exact mode of attachment, and also whether bone had been reproduced. If there is no membrane, is not ankylosis the form of attachment? If ankylosis exists, the crooked and distorted root will be best and longest retained. It is not an uncommon thing to find a natural tooth which for years has performed its work, though in a condition of ankylosis. There long has been felt the need of a method of preventing the absorption and atrophy of the alveoli and the recession of the gums, resulting from the loss of teeth. Thus the roots of teeth adjoining the one removed are laid bare and disease invited. The restoration of these tissues to their natural condition follows the operation of implantation, which thus is demonstrated to be the remedy so long sought. If these teeth become permanently retained, will not this also prove a great feature in bridge work? The full use of these implanted teeth, even for a few years, bringing, as they do, additional power of mastication and restoring the natural appearance, would be in itself, to my mind, the complete success of this new departure in dental practice.—*N. Y. Trans.*

Gutta-percha Varnish.—There is leakage around a gutta-percha filling, and yet you can prevent the clouding of the tooth by varnishing the cavity before filling, and for that purpose I think the varnish suggested by my friend, Dr. Ives, is the best. It is made of virgin rubber, 30 grains, in half an ounce of chloroform; gum damar and sandarac, each 20 grains, in half an ounce of chloroform; dissolve and make an ounce. It makes a very strong, solid, and somewhat opaque varnish.—*Prof. J. Foster Flagg.*

For molding, Dr. Osborne of South Orange, uses pumice made sticky with glycerin.

TREATMENT OF PULPLESS TEETH.

DR. F. Y. CLARK, NEW YORK.

The only way to understand the true specific treatment of the various abnormal conditions of pulpless teeth is to begin at the bottom or origin of the trouble and go up. Let us see if we can work this rule out in the following cases:

In No. 1 there is an almost odorless discharge of thin pus. There never was any trouble with the tooth. The decay gradually encroached on the pulp, and a quite peaceful death followed. There never was an abscess. Therefore we have to deal with a simple case of disorganized tissue. Now reflect a few minutes and you will see that the life forces are trying to free themselves of an attacking enemy, throwing off septic matter as fast as manufactured. To assist these life forces in the struggle we must become familiar with the enemy—his weapons and mode of using them—and to do this must get into his armory and among his private weapons.

If you are a good bacteriologist and will patiently examine the pus discharged, after a while you will know the enemy and know how to meet him with a certainty of success. We would like to go into this, our pet subject, but, according to the text, space and time will not permit. Suffice it to say: *In every condition of disorganized pulp a fermentive organism is the factor to be dealt with*, and familiarity with the life, history, behavior and office of this organism is the only sure way to arrive at intelligent and effective treatment. To illustrate: say we are in doubt in the case under consideration. A trace of the pus or discharge is put on a slide under a good one-eighth or one-tenth objective, with a B or C ocular, and then a trace of iodoform, peroxide of hydrogen, or any similar disinfectant. If there is true antiseptic action there will appear a slight disturbance, approaching effervescence, just enough to be noticed, followed by deliquescence. If this is not apparent the antiseptic should not be used. Perhaps this can be better understood by placing a grain or two of animal or vegetable matter in half a glass of water. In a few hours quite a little commotion at the bottom and sides of the glass will be apparent, and when first fermentation has taken place and the fluid is a little cloudy, examine the water, and micrococci and a few other species of bacteria will be seen. This, for convenience and to be better understood, we call First Ferment. Now put a few drops of peroxide of hydrogen in the water, and in a few minutes it will become clear and the organisms will be precipitated to the bottom lifeless, according to the strength and quantity of the antiseptic. But let the water alone ten or twelve hours longer, leaving out the H^2O^2 , and a deeper cloud will appear, and other organisms will be seen, such as bacilli vibrig, and perhaps

spirochate. The H^2O^2 will now have little action, but iodoform or bichloride of mercury will cause the water in a little while to become free of organic life. But if left alone for ten to twenty hours longer, it will swarm with bacteria-termo, the true organism of putrefaction. Drop into this carbolic acid, 1 to 100, and H^2O^2 1 to 200, or iodoform, and organic action will cease. The peroxide of hydrogen don't seem to act the same on bacteria-termo as when mixt with carbolic acid, nor does the last on micrococci as well as the first. Now does this not point to a path that will lead to the correct treatment in the different conditions of pulpless teeth under consideration? It will be seen from what has been said as to the case under consideration that H^2O^2 is the true antiseptic called for. Before using this the decay and debris in the crown should be somewhat removed, but *under no pretext or consideration* attempt to barb the root till the tooth is disinfected. Remember, by inserting a nerve barb, you dislodge debris and choke up the foramen, which is sure to give trouble before you get the case safe in hand. Even if you do not choke, forcing an instrument above the apex before disinfecting is equally bad, like poking a stick into a hornet's nest to see if they are at home. Then let us repeat, *under no consideration fool with the case till you disinfect, or till it has been under treatment at least twenty-four hours.* The root may then be washed out; and if there is no odor on the barb, or sign of discharge, fill. It is always better before filling the root to clean it with about one-tenth of a drop of creasote. We can imagine no case, unless one of fistule, where creasote or carbolic acid should be used at first. It is an escharotic, and should never be used at first unless in the case referred to; but when all trouble is well under control, there is nothing better or as good. One-twentieth of a drop, or a trace, introduced into the root before filling will remain and act as a faithful sentinel for many years. By far the best way to place this sentinel on guard, and to fill roots, is to mix about one drop of creasote with oxyphosphate, and when quite soft press well into the root. This surplus when hard can be cut away. This, for many reasons, is the best and most convenient method of filling roots that we have ever tried, and we most unhesitatingly and dogmatically recommend it in preference to all others.

Suppose another case. This is entirely different from No. 1, and requires different treatment. There has at some period been considerable pain, and perhaps a little engorgement of surrounding tissues, which passed away, and the tooth has been and is now quiet and in a dormant state. The pus is thick, with a yellowish tint; and on tapping the tooth it seems a little more sensitive than those adjacent. At the end of this tooth there is most undoubtedly a chronic or

secretory sac, which must be broken up before much headway can be made toward successful treatment. At the second sitting a fine hair broach should be passed through the foramen and followed by a drop or two of peroxide of hydrogen, and at the next sitting by a drop of creasote, and then filled.

Case No. 3 is a mummified condition of the pulp. It is dead, and there is no apparent discharge of odor. You do not want to fool about this case much with instruments, and particularly with peroxide of hydrogen; air it don't want too rapidly. Use a trace of iodoform and seal it up for a few days. At the second sitting a good washing and renewing the iodoform is about as much as the most of these cases will bear. If it stands this peacefully it is under control, and can be treated in the ordinary way. There are several conditions of this last class that require special treatment. Occasionally there is just a little life left; no bleeding, and nothing to be seen; but the instrument will produce considerable pain, sometimes followed by an after pain. This pulp, from all indications, should be dead as a door nail; but on the contrary there seems some kind of life connection. In this condition of pulp, tincture cannabis indica has a wonderful effect and appears to succeed when all other obtunders fail.

Case No. 4 is "blind abscess." This is a misnomer. Such cases generally come within the scope of a class that has been filled, where the pulp slowly died, owing to the proximity of the filling, or from some destructive agent used before filling, or unknown cause. Now before this condition of pulp can be satisfactorily and intelligently treated we must first learn what septic we have to contend with; and, as said before, this can only be accomplished by patient microscopical research. Examine the pus carefully, see how it differs, if at all, from the discharge of other cases, and by experiment learn what antiseptic should be used. Remember that nine times in ten there is a disorganized condition at the apex of the root, if not a gas or pus pocket. When the condition of the tissues are in such an abnormal state as not to tolerate air, we should not use any antiseptic at first, washing out with some simple anodyne, leaving a little in, taking great care none is forced through the forament, *for it is generally the air or liquid which is carelessly forced against the parts beyond the end of the root that produces the trouble.* Consider this well and you will avoid it and have better success.—*N. Y. Trans.*

Dependence, and not independence, is the law of life. The true strength of every soul is to be dependent on as many nobler souls as it can discern, and to be dependent on by as many inferior souls as it can reach.—**RUSKIN.**

BICHLORIDE OF MERCURY IN DENTAL PRACTICE.

DR. LOUIS OTTOFY, CHICAGO.

The uses of this agent in dental practice are almost endless. It can be safely resorted to in all operations in which the result depends on the destruction of spores or microbes, which are now generally accepted to be instrumental in creating or maintaining diseased conditions. It can be used in solution of from one part in two hundred of water to one part in two thousand. A stronger solution than the former may not be safe, and weaker solutions than the latter are not supposed to be effective for the sterilization essential in dental surgery. The best method of having a stock solution on hand is to take 100 grains mercuric bichloride and add it to 1,000 parts of water at one time. This quantity requires the addition of alcohol, as the bichloride is not soluble in water to the extent of 100 in 1,000. This may be kept in a cool and dark place, and from it three solutions should be made, namely:

One of one part in 200
 " " 500 and
 " " 1,000,

in quantities regulated by the amount of each as may be required. The 200, 500 and 1,000 solutions are used only in small quantities, hence an ounce vial of each in the operating case is all that is necessary. To prepare them, take from the pint bottle,

Ten parts to 190 of water: makes one in 200
 " " 490 " " 500 and
 " " 990 " " 1,000.

A tumbler, bottle or small pitcher full of the latter should be made each day for the washstand to be used as it is, or it may be diluted with half of water, making a 1 in 2,000 solution to be used for purposes mentioned hereafter.

The dose of bichloride of mercury is from 1-20 to $\frac{1}{4}$ of a grain. In the solution prepared, the following will be the proportions:

Solution.	% of bichl. of mer.	In 100 drops.	In 50 drops	In 10 drops
One in 200.....	$\frac{1}{2}$	$\frac{1}{2}$ grain.	$\frac{1}{4}$ grain.	$\frac{1}{20}$ grain.
One in 500.....	$\frac{1}{5}$	$\frac{1}{5}$ "	$\frac{1}{10}$ "	$\frac{1}{50}$ "
One in 1,000.....	$\frac{1}{10}$	$\frac{1}{10}$ "	$\frac{1}{20}$ "	$\frac{1}{100}$ "
One in 2,000.....	$\frac{1}{20}$	$\frac{1}{20}$ "	$\frac{1}{40}$ "	$\frac{1}{200}$ "

In opening into a cavity for any purpose, and whether after or before the application of the rubber dam, the cavity having been dried, should be flooded with the 1 in 1,000 solution. This solution should be used for sterilizing exposed pulps and disinfecting cavities when they

extend near to the pulp. It is the solution *par excellence* to be used in implanation. In it all instruments used in this operation should be dipt and the hands, towels, syringes and anything else which may come in contact with the tooth or mouth should be moistened with it, for success in implanation depends mainly on perfect sterilization and healing of the parts by first intention. The foregoing table demonstrates that the minimum dose of the drug is contained in fifty drops of the solution (1 in 1,000), hence no fear need be entertained in regard to the poisonous action of the drug, as that quantity would have to be swallowed or otherwise taken into the system to administer the minimum dose, and 250 drops to get the effect of the maximum dose.

The 1 in 200 and the 1 in 500 solutions are to be used carefully; the former contains the minimum dose of the salt in 10 drops and the latter in 50 drops. These solutions are used principally in root-canals and the quantity and strength to be used should be governed by the size of the dental foramen, as is generally indicated by the instrument used or by the age of the patient. Where so-called immediate root filling is practiced, the use of the bichloride of mercury is essential. Its rapid and certain action in destroying disease germs and its preservative quality are brought into prominence. In teeth where the dental foramen is large, the 1-5 per cent solution (1 in 500) should be used cautiously, while the 1-10 per cent solution (1 in 1,000) may be used with impunity. The $\frac{1}{2}$ per cent solution (1 in 200) is used in root-canals whose foramin is small. But the principal use I have found for this solution is in painting those small irritable patches, which cause so much annoyance to those afflicted with them. The mucous plaques seem to have a certain course to run. I do not know to what causes they are due, or how they can be cured. They begin as a small irritating red spot, almost anywhere on the mucous membrane of the mouth or tongue, become gradually larger, generally about the one-twelfth of an inch in diameter, their surface is white or gray, and when in contact with the teeth, or when situated in folds of the mucous membrane are very tender and painful; on the third and fourth day they are generally almost unbearable, and by the seventh or eighth, have entirely disappeared. By touching these spots three or four times a day with the 1 in 200 solution, their progress is generally checked, though in some merely improved, but always less painful and disagreeable.

The 1-20 per cent (1 in 2,000) solution is used for washing the hands, spittoon and instruments, the latter are dipt in it and rapidly wiped and rubbed clean and when thus treated do not corrode; of the forceps generally only the beaks need thus be treated. In this strength it may also be used as a mouth-wash, half of the solution and half of

listerine, adding a few drops of the extract of white rose, jockey club, Mary Stuart or any other sold in the drug stores. These extracts and the listerine combined tend to disguise the disagreeable taste and astringent action of the salt. These solutions have to be used thus without a definite knowledge of their exact action, till it is definitely ascertained in what degree they are effective, and for what length of time they must be kept in contact with the parts to be acted on. For the present, it is certain that no known substance has the properties of destroying parasites so well as the bichloride of mercury. Its poisonous effect, and its tendency to corrode instruments is the principal objection to its use; both of these can, in a measure, be overcome, and with the exercise of good judgment, the use of the bichloride of mercury will prove of much benefit to those who have not used it, or who have resorted to its use to a limited extent only.—*Dental Review*.

DISEASES AFFECTING TEETH.

A RESUME OF DR. MARTIN'S REMARKS BEFORE THE MICH. ASSOCIATION.

Teeth begin to germinate early in fetal life, as early as the seventh or eighth week, and at the eleventh week the germs for the deciduous teeth are all formed, and from this time till the full development changes occur continually. The principal law of development is that as long as the parts are normal all parts develop in the same degree, but if there is delay, some part is defective. The arrest of development will produce, at one time cleft palate, at another hare lip, or it may extend over and cause both cleft palate and hare lip; at other times the mental faculties may be impaired. Maternal impressions may affect either the nervous system or physical organization. The first may result in impairment of the mental faculties; the latter affects the body, and thus the teeth. Diseases of the mother also affect the fetus. After birth, such diseases as scarlet fever, small-pox, measles, or diseases affecting the alimentary tract, will influence the integrity of the teeth. If the teeth are not nourished because of a lowered state of vitality, bad results follow, and whatever affects the teeth affects the system in general.

Diseases of the intestinal tract affect the oral structures of the mucous membrane of the alimentary canal, affecting the mucous membrane of the mouth, and thus the teeth.

Disturbances at the time of eruption are often attributed to this process, yet the cause may lie somewhere else. From the time of birth changes are taking place all along the alimentary canal, and while at first the digestive organs can only assimilate liquid food, when the teeth appear, the alimentary tract has become prepared for the digestion of solids. A child, though unconsciously violating nature's laws,

receives punishment the same as older persons, and therefore care should be exercised in their proper feeding. Disturbances of the alimentary canal at this period are attributed to the uneasiness peculiar to the time of eruption. At this time the child has a hot, dry skin, fever, diarrhea, vomiting, or it may die of convulsions, and yet the eruption of the teeth plays only a very small part in the cause.

The chemical action of the secretions of the mouth play an important part. Turgid gums is given as a cause for systematic disturbance, and considered local, when in reality it is a general condition with local manifestation, Tartar is a local manifestation, but is the result of a general condition. The saliva is nominally alkaline, and never acid except in pathological conditions. The buccal secretions differ from the saliva, the reaction being acid; and in long fasting the oral secretions may be acid from the excess of the buccal secretions. In analysis the test should be made as soon as possible, not after five or six hours after, as decomposition takes place rapidly. The bad odor of tartar is caused by the presence of decomposing animal matter.

The saliva of infants is similar to that of adults, only more alkaline, but when it becomes acid the effect is much more marked. In many summer complaints in children, the secretions of the mouth are acid. When the acid is excessive it is absorbed into the system, causing greater stimulus of the secretory glands. The alimentary canal will stand about two-tenths of one per cent of hydrochloric acid. This hydrochloric acid is not the product of decomposition, but it is butyric, lactic and other acids that irritate the alimentary canal. An over-stimulus of the buccal glands may result in their breaking down, and the presence of pus, blood, etc. Stomatitis is the great cause of acid secretion. The first stage is dryness; the second, over secretion of glands; third, pus; fourth, more destruction of tissue by ulceration and breaking down of structures. In stomatistis, the secretions are normal to certain point, then they change from over stimulus. Catarrh has a marked effect on the glands, wherever they may be, and all secretions from the throat in catarrh are abnormal.

Acid secretions may produce ulcerations or the development of parasites on the mucous membrane. Weak alkalies kill these parasites.

Disease of the salivary glands also cause an increase in the acid secretions, by the flow of alkaline saliva being diminished. One salivary gland may be diseased and secrete abnormal saliva, while another may be normal.

Rheumatism or gout produces over secretion of acid in the mouth, and this may be due to change in the condition of the liver. It is conceded that when there is a surplus of acid in the system it is caused by non-elimination, and not to over production.

Indigestion or dyspepsia is probably the most potent factor in producing evil results on the teeth. When food, taken into the stomach, at a proper temperature, does not digest, it will undergo other changes, and fermentation is the result, producing an acid, and this means an acid secretion in the mouth.

Acid secretions affect epithelial structure and the dental organs being formed from sub-epithelium are easily affected by this condition.

Years ago it was said "a tooth for a child," meaning that every time a female went through the process of gestation a tooth was lost. Modern authors say two teeth for a child.

To treat effectually, get at the cause; if due to indigestion, treat for that, etc. Alkaline mouth washes will be useless. Hence the necessity for a thorough medical knowledge to the progressive dentist.

—*Dental Review.*

FILLING SENSITIVE TEETH.

DR. OTTOLENGUI IN ODONTOLOGICAL SOCIETY OF PA.

It had been my practice in such cases to give gas before operating; but one day a lady came to my office to have a tooth filled, and I found it so sensitive I could not touch it: at my very first attempt she fainted, and as she would not take gas I could not go on and had to let her go home. After she had gone I said to myself, "What is the reason the dentine is so sensitive, and what means can I use to lessen the pain of operating in such cases?" Of all the different things I had tried or heard recommended, chloride of zinc, and hot air were the two which gave the best results, and I tried to think what it was they had in common. I reasoned that when the chloride of zinc crystals are put into a cavity, they draw the water from the tubules, and that the hot air would do the same. This I thought would cause the fibrils to contract into the tubules so far that they would not be touched by the excavator in preparing the cavity. My idea was that the tubules were straight pipes, and I did not know then that many of them were forked in such a way that the fibrils could not be contracted far. Then I thought, if I can dry the moisture out of these tubules and cause the fibrils to contract, the pain will not occur. So I concluded to fill the cavity with absolute alcohol; then with a chip-blower force hot air in till it was evaporated dry, and for the purpose of contracting the fibrils I could think of nothing better than the ether spray. I wrote the lady that I had a method of operating painlessly, and when she came to my office I told her I thought she would feel some pain from the ether, but that she would not feel the cutting of the tooth. The operation was an entire success; the suffering from the ether spray was trifling, and the operation of preparing and filling the cavity entirely painless.

This was my first case, and since then I have proceeded in the same way with over fifty others, and have not had a failure. There was one in particular I wish to speak of—one of arrested decay which was very acutely painful. I subjected it to this treatment, and it was an entire success. Where the sensitiveness is around the whole tooth, and the cavity is not a crown cavity, I use the hot air; then the ether spray; then I take a gold finishing bur and cut away the diseased and broken-down dentine. These burs will not cut sound dentine, and you can use them freely, and the effect of the treatment will continue till the filling is finished. I have operated so often without failure that I am satisfied of its invariable usefulness.

I do not believe now, as I did at first, that this operation obtunds the pain because the fibrils contract and thus escape the touch of the excavator and drill used in preparing the cavity, for I have drilled so deep that this will not explain it. The freezing of the parts by the ether spray seems to be the cause.

Another point. I have been asked about the effect of this treatment on the pulp. Shortly after I was convinced of its success I had a case of an exposed pulp which I tried to anesthetize so that I could take it out, but did not succeed. I then cap the pulp and filled over it, and it is still alive, which I know because the tooth is sensitive to cold.

If you will test this method thoroughly, I think you will have no trouble if you follow my plan correctly. I use the hot air for three minutes by the watch, and in special cases for four minutes, and keep up the ether spray till the patient is quiescent. About one-third of the patients will complain of pain from the ether. I consume from four to five minutes in the whole operation of rendering the tooth anesthetic and preparing the cavity.

Dr. Tees. Do patients become affected by the ether?

Dr. Ottolengui. I do not think they do in any case.

Dr. Kingsbury. The treatment of Dr. Ottolengui's for obtunding sensitive dentine may possess a special merit. Yet it may be a question whether it has much advantage over the application of deliquescent chloride of zinc. Its application on a small pellet of cotton or bibulous paper for a few minutes will in almost all cases obtund the most sensitive dentine. At the instant of application a painful impression is produced, but it soon ceases. A similar or even more painful sensation follows the ether spray.—*Cosmos*.

It does not matter how many, but how good books you have. It is much better to trust yourself to a few good authors than to wander through several.—*Seneca, A. D. 20*.

"THE TEETH GLUED TO THE JAW."

DR. C. T. SHERMAN.

How is this from the pen of an A. M., M. D., and Prof. of Disease of Children, in the Northwestern University?

"The bulk of a tooth is made up of wavy tubes of dentine with cementum gluing it to the jaw, and inside of the tooth the pulp cavity already described.

"With cementum gluing it to the jaw." Isn't that scientific? And yet I quote from a "Physiology and Hygiene," which is being read by thousands of people: a book that is intended as a system of education for the masses.

I hope that idea won't "stick" as some teeth do!

Modeling Compound for Impressions.—Dr. Ottolengui says: "If you will examine the modeling composition as it comes from The S. S. White Dental Manufacturing Co., you will find that each cake of it is a beautiful impression of the mold in which it is pressed, and impressions of the mouth can be taken just as sharp and perfect as the impressions of the mold, and just as good for the purpose as any plaster impression, and except in deep undercuts I think better. Even in deep undercuts, if rightly manipulated, there is no danger of its being drawn out of shape. The material must be carefully prest into position and allowed to remain there till it is hard as it is when cold. This will take from ten to twelve minutes.

Dr. Ottolengui must have a patient class of patients for them to be willing to submit to such an ordeal for ten or twelve minutes. Besides, the pressure necessary makes a *good* impression impossible and its removal is not without danger as well as pain.—ED. ITEMS.

The Eastern Illinois Dental Society.—Dr. F. D. Mann, the Secretary, writes us that the last meeting of the society was a specially profitable one. The essays were practical and the clinics numerous and profitable.

Dr. J. D. Moody discoursed on copper amalgam; Dr. E. W. Sheriff gave an interesting paper on

THE DENTIST AS A TEACHER;

followed by Dr. M. L. Whitesides on Prosthetic Dentistry.

TREATMENT OF PULPLESS TEETH,

by Dr. D. W. Dwight, elicited a spirited and profitable discussion.

The subjects of the clinics were gold crowns, gold and platina fillings, gold fillings with matrix, and several other manipulations that were of practical interest.

The officers for the ensuing year are among the most prominent dentists of the State.

ORIGIN OF GOLD CROWNS.

DR. S. H. HARLAN, BLUFFTON, OHIO.

In the early Spring of 1879 I devised and fashioned a gold crown for my own right lateral incisor, and which I wear to-day. At the time of its conception I fully believed it was the first and only one ever made. I considered myself an inventor in every sense of the word, since no hint or suggestion had ever come to me from anyone, calculated to prompt the device and its application.

I was resting easy under the situation, watching the result preparatory to publishing my method, when I was piqued not a little to read in one of our journals somebody's account of a similar device and appliance. My thunder was stolen and so remained silent, consoled with the reflection that new ideas are sometimes simultaneously had by different persons at widely separated localities. I was afterward still more mortified to find that some company had sought exclusive right to its manufacture by patent.

The Forceps as a Regulator.

The forceps judiciously applied, and at the proper time, are the best regulators we have in four cases out of five, and the removal of the six-year molars just prior to the eruption of the second bicuspid will prevent irregularities in fifty per cent of the cases where there seems to be a predisposition to malformation. Consequently I denominate the forceps as the first regulating appliance to be used.—
N. J. ROBERTS.

Is not this pernicious teaching? If some bombastic tyro of a student took such a position in his examination essay, he would stand a chance of losing his head. Coming from a prominent dentist, it should be still more severely condemned.

The fact is, the only way for us all is to study carefully what we read, and not take the statements of any one on mere assertion.

Anomilies.—On examining the upper teeth of a young lady patient, I found the first left bicuspid between the cuspid and lateral incisor. The arch was well shaped and teeth regular.

A young man 24 years of age, for whom I was inserting some filling, had four permanent molars on the left side of the lower jaw. All the teeth on that side from the median line were in place without any irregularity. Had there been only one bicuspid, I would have thought the second temporary molar was still retained, but the temporary molars were both replaced with bicuspid and four well shaped permanent molars in place behind them. The eruption of the fourth molar was accompanied by great pain and suppuration. W. A. BROWNLEE.

Mt. Forest, Ont.

The Discovery of Anesthetics.—The teeming millions of earth are indebted to American genius for innumerable mechanical inventions, and for the conversion of chemical elements into indispensable agents for the use of man. A discovery less important to monetary and commercial interests, but pre-eminently the “most beneficent boon ever conferred by science on the human race,” was the discovery of the inhalation of nitrous oxide and of ether as a preventive of pain by an American dentist, Dr. Horace Wells. “The enthusiasm with which the announcement of this marvelous discovery was received, may well be described as unbounded. Wafted across the Atlantic, it was at once hailed with rapturous exultation in England, and speedily adopted in most of the large hospitals throughout the kingdom. It was similarly received in the vast hospitals of Paris, and in the numerous institutions of like character in Germany, including those celebrated at Berlin.” Thus it was the genius of Americans excited the wonder and admiration of the civilized world. Honors innumerable were bestowed on Fulton, Morse, and other inventors, while the man whose brilliant intellect recognized and successfully applied the elements found in nature to antagonize physical distress, in deadening sensibility in painful operations, was refused even recognition by our own unappreciative government. The French Academy, however, always eager to encourage scientific work and discoveries, has acknowledged, by pecuniary and honorary awards, the indebtedness of mankind to the American discoverer.

Imagination.—When it is a question of nerves, the power of imagination is supposed to be stronger in women than in men, but this was not shown in a recent hospital experience. Dr. Durand, wishing to test the practical effect of mind disease, gave a hundred patients a dose of sweetened water. Fifteen minutes after, entering apparently in great excitement, he announced that he had, by mistake, given a powerful emetic, and preparations must be made accordingly. Eighty out of the hundred patients became thoroughly ill, and exhibited the usual result of an emetic; twenty were unaffected. The curious part of it is that, with very few exceptions, the eighty “emetised” subjects were men, while the strong-nerved few, who were not to be caught with chaff, were women.—*Dental Register*.

The Southern Medical College of Atlanta, Ga., has opened a Dental Department. In its session just closed it graduated 6 Dental Students, and had 26 matriculates. Dr. L. D. Carpenter, of Atlanta, is Dean.

MICROBES.

DR. LOUIS OTTOFY, CHICAGO.

The dividing line which is supposed to have existed between the animal and vegetable kingdoms is being rapidly obliterated; indeed, it is now almost beyond question that there is not sufficient difference to justify a division into separate kingdoms. As in our observations we descend to the lower classes of animals and plants, some of each are reached, which have so few and slightly distinguishing features, they may be classified with either animals or plants, without in any marked degree violating the laws governing either species. To this vast class multitudes of minute living beings belong. The air and water is filled and peopled with them. In the lowest species of plants we find the various disease germs and spores, which have been erroneously designated as animalcules, but are now more properly known to be plants. The closer knowledge we now have of the life and habits of these germs has entirely revolutionized medical science and practice. Diseases whose origin has been thus discovered, and diseases whose management has been beyond human control are now comparatively well understood. Undoubtedly the introduction of these germs into the system under various conditions and at various times lead to certain specific results. Nor is this less true of that portion of the human body more directly under the care of the dentist. It has been ascertained that the destruction of these germs and their exclusion from diseased parts, or indeed from the entire organism is followed by favorable changes and that usually a return to physiological conditions is the result. There are many chemicals and drugs which may bring about these favorable results; foremost among them is bichloride of mercury.—*Dental Review*.

Our Standing.—There are 140 dental societies in the several states, and twenty-three dental journals, which bring to us the thoughts of the best minds of our profession and the dental improvements throughout the entire world. We have 22 dental colleges.

The high esteem in which American dentists are held in other lands, is not shared by members of other professions of our country. The crowned heads of France, Russia, Italy, Austria, Holland, and Germany have each bowed in recognition of America's superior dental skill, and sought and secured the service of our confrères.

Agricultural Experiment Station of the Penn. State Collège at Tremont, Center county, has just issued its second bulletin. If the agricultural colleges of all the States would keep abreast of the demand of the times as this one, we should have rapid improvement in this important department of industry.

Amalgam Fillings.—Dr. C. R. Taylor, Ill., says: Success in all callings and all operations depends on thoroughness. It is more due to the operator than the material. There is no trouble in finding amalgam fillings that have done service for twenty or thirty years, and the same may be said of cohesive or non-cohesive gold, and even gutta-percha fillings occasionally last many years. He believed amalgams have virtues and uses that no other materials possess. The material has its limitations and defects also, and we must not ride it as a hobby, for we should remember that a hobby is only a wooden horse after all. The fillings are usually not thoroughly amalgamated. If there are hard grains under the burnisher in packing or finishing, it shows that it has not been well enough mixt. At one stage of the amalgam question it was urged to use it very dry and crumbly, and then the edges were sometimes like sand and crumbled. If too much mercury is used it squeezes out at edges and surface in packing and washes away, so that the filling falls away from the margins. The most perfecting mixing will bring no mercury to the surface in packing, but some surplus can be absorbed with dry amalgam or bibulous paper.

Silex for Plates.—In the April ITEMS, Dr. W. Mitchell, London, England, says, "Liquid silex is about the worst article possible to promote the adhesion of plaster to a plate." *

My experience is just the opposite. I presume it is the way I use it that makes the difference.

Just before packing your rubber, after having⁶ picked and washed with boiling water all the wax from around the pins, coat your cast, and all other parts that come in contact with the rubber, with your silex.

Dilute the silex with water till nearly as thin as water. You need not wait for the silex to dry before packing; if you do it will adhere to the plate. That I think is the secret of my success—*coating with the thin silex just before packing.*

Wash your brush after using to keep it from becoming stiff.

For the Whitney vulcanizer, soap is the best thing to use on the threads and packing to make it open easy. J. C. KING.

Dallas, Texas.

* Dr. Mitchell writes us that he should have said: "Liquid silex is about the best article possible to promote the adhesion of plaster to a plate."—ED. ITEMS.

Implantation nothing new.—In fact what is there new? Fitch says in his *Dental Surgery*, published in 1829, page 434: The fourth method of substituting lost teeth is "transplanting a sound living tooth from the jaw of one person to that of another, and inserting it so that it may grow there." And further on gives directions.

OVERCROWDING.

DR. J. CALDER, EVANSTON, WYO. TER.

Editor ITEMS:—On looking over the names of the numerous dental colleges in the United States of America, I find this year twenty of the number have graduated five hundred and ninety-four, and matriculated fourteen hundred and fifty-five students. Yet the Royal College of Dental Surgeons of Ontario, Canada, graduates the modest number of fifteen. In view of the crowded state of the profession, the question arises, where are those now graduated to find openings for a lucrative practice?

I notice an advertisement in the *Dental Cosmos* calling for ten good all around assistants; salary, \$15 to \$20 per week.

Fifteen dollars per week is a laborer's wages in this locality; a printer's, eighteen dollars per week; carpenter, three dollars per day; fireman on U. P. R. R., eighty to one hundred dollars per month; engineer, one hundred and fifteen to two hundred dollars per month; machinists, three dollars and seventy-five cents per day; boiler-makers, four to five dollars per day, and the dentist who has to spend years of hard study, beside thousands of dollars to perfect himself to pass the graduate examination, is offered fifteen dollars per week. Is this not running an honorable profession down to the level of the common laborer! This I take as evidence that the supply is in excess of the demand in the East, and I know it is so in the West. The medical profession of the Pacific slope are awaking to the fact that some organized effort must be made to check this excess in their ranks. In a recent communication from a former secretary of the board of examiners (Medical of California) to the present secretary, I extract the following:

"Has it occurred to you that the profession and the people are suffering from an abuse, which the former sustains without protest, quite equal in its baneful results as practised by the irregular and uneducated, in the multiplicity of colleges and the flooding of a defenceless community with crowds of new-fledged doctors, male and female, with their ceaseless volumes of inexperience.

"Organized mechanics regulate the number of new apprentices, determine approximately how many can secure adequate employment at living compensation, and the time is not distant when professional men will feel obliged to take action in that direction, not only to protect themselves, but to save the public from being overrun by too large a proportion of inexperienced practitioners."

These are grim facts which apply with equal force to the dental profession, and demand co-operative measures to check this abuse, not only to thin out our ranks, but to keep the flood wood out.

THE USES OF GLYCERIN.

DR. J. S. CHARLES, OMAHA.

Few people realize the importance of the uses of pure commercial glycerin, and how it can be used and made available for purposes where no substitute is found that will take its place. As a dressing for ladies' shoes nothing equals it, making the leather soft and pliable without soiling the garments in contact. Where the feet sweat, burnt alum and glycerin—one of the former and two of the latter—rubbed on the feet at night and a light or open sock worn, the feet washed in the morning with tepid water, will keep them during the day free from odor, so disagreeable to those persons who are sufferers.

For bunions and corns cannabis indicus and glycerin, equal parts, painted on the bunion or corn and bound around with cotton flannel, adding a few drops of the liquid to the flannel where it comes in contact with the affected parts, will soon remove them.

As a face lotion, oatmeal made in a paste with glycerin 2 parts, water 1 part, and applied to the face at night, with a mask worn over, will give in a short time, if faithfully pursued, a youthful appearance to the skin.

As a dressing in the bath, 2 quarts of water with 2 ounces of glycerin, scented with rose, will impart a freshness and delicacy to the skin.

In severe paroxysms in coughing, either in coughs, colds, or consumptives, one or two tablespoonfuls of pure glycerin in hot rich cream will afford almost immediate relief; and to the consumptive a panacea is found by the daily use of glycerin internally, with the proportion of 1 part of powdered willow charcoal and 2 parts of pure glycerin.

For diseased and inflamed gums, 2 parts of golden seal, 1 part of powdered burnt alum, and 2 parts of glycerin, made in a paste and rubbed on the gums and around the teeth at night, strengthens and restores the gums to health, provided no tartar is present to cause the disease, which must be removed before applying.

And finally, Mr. Editor, to the epicure who relishes a nice breakfast dish of fried fish, he will find "a feast for the gods" by frying the fish in glycerin to a brown, adding a small sprig of parsley when nearly done.—*Scientific American*.

The Dental Profession has established and prolonged the reign of beauty; it has added to the charms of social intercourse, and lent perfection to the accents of eloquence; it has taken from old age its most unwelcome feature, and lengthened enjoyable human life far beyond the limit of years when the toothless and purblind patriarch might well exclaim, "I have no pleasure in them."—OLIVER WENDELL HOLMES.

WORKING AMALGAM.

THOMAS FLETCHER, F. C. S., WARRINGTON, ENGLAND.

Editor ITEM:—Dr. Dwinelle says he has used spunk in packing amalgams, and has been "careful to select a good article." If he had used common, hard material, worthless for other purposes, he would have found it best for condensing, and if he had used tin foil he would have found it better still. "A good article" may be good for one thing and bad for another. No better criticism can be offered on his case in the management of amalgams than his own statement that he lets his fillings get into such a state that he can "sometimes wash away from one quarter to one-third of the substance of the amalgam." When things get to this state it would be better to wash the whole down the sink and obtain a fresh supply. The washing question is once more brought out and aired in the usual way. I have been waiting for twenty-five years to learn why any one, either with or without a knowledge of chemistry uses ordinary washing soda to wash away oxides of metals and still wait; many seem to look on oxidized amalgams and dirty clothes as chemically alike and requiring the same treatment. If an amalgam is oxidized it has been neglected and treated in a manner which renders it unfit for use, and it cannot be washed at all till at least double the necessary quantity of mercury has been added. When once this mercury has been added it can never be entirely removed, nor can any part of it be removed without carrying away some of the constituents of the amalgam and altering its nature.

Dr. Dwinelle's remarks are important as they can only tend to perpetuate the production of poor and uncertain amalgam fillings. His remark that all metals will oxidize is not correct; some metals will not combine with oxygen direct; the one he mentions will not do so, and any amalgam fillings kept in an air-tight bottle will keep perfectly free from oxides for an unlimited number of years.

Capsicum as a Counter Irritant.—Dr. C. B. Rohland says: Buy a "Benson Capsicum Plaster," shellac the back of it, cut off, in pieces of size suitable to the case in hand, and, if only gentle stimulation is required, apply as it is. Should you wish more decided action, add a few grains of capsicum, which will adhere to the sticky surface. Should you desire to use other medicines, press a small wad of prepared cotton or paper fiber lint to the sticky side of plaster, trim to suit, and moisten with any tincture or combination you please. This is also an effective way of applying cocaine. Apply moistened pads to the outside and inside gum, hold with thumb and forefinger, or with properly bent piano wire.—*Archives of Dentistry*.

MAKING SOLDERS.

DR. D. H. GOODNO, WASHINGTON, D. C.

I believe much of the solder used is below the grade at which it passes, otherwise why should it blacken in the mouth more than the plate on which it is used, which is nominally of the same fineness. Probably most solders are made from coin or California gold, which is not finer than 22 karats. A nominal 18 karat solder made from such gold, using the same amount of alloy as for pure gold will be $16\frac{1}{2}$ karats fine, and I doubt if it is generally finer than that. As good solder can be made from gold coin, as from pure gold, but not by using the same amount of alloy. An 18 karat solder is $\frac{3}{4}$ pure gold, and $\frac{1}{4}$ alloy. You have here $\frac{6}{8}$ or $\frac{1}{2}$ as much alloy as of pure gold. If you use pure gold, you have only to weigh it and add to it $\frac{1}{3}$ as much alloy as of gold. In 20 karat solder you have $\frac{2}{3}$ pure gold and $\frac{1}{3}$ alloy. In this case there is $\frac{4}{6}$ or $\frac{1}{3}$ as much alloy as of pure gold. The calculation is very easy.

In gold coin you have $\frac{2}{3}$ pure gold and $\frac{1}{3}$ alloy. In an ounce of coin you have 480 grains, but only 440 grains of pure gold, and 40 grains of alloy. To make 20 karat gold from 440 grains of pure gold you would add 88 grains of alloy, but as you already have 40 grains of alloy in your ounce of coin, you need only an additional 48 grains of alloy to make a 20 karat gold. Example:—48 added to 480=528. Composition:— $\frac{440}{528}=\frac{5}{6}=\frac{2}{3}=20$ karat.

I will add that you should use $1\frac{1}{2}$ grains of pure zinc, to the dwt. as a part of the alloy.

Conserve Your Forces.—Hamerton says: "It often happens that mere activity is a waste of time; that people who have a morbid habit of being busy are often terrible time-wasters, while those who are judiciously deliberate, and allow themselves intervals of leisure, see the way before them in those intervals, and save time by the accuracy of their calculations."

Another writer says: "Some men are in incessant action, early and late and all through the day. They have no time for family or friends. As for holidays, the less for them the better. They have inherited a nervous temperament, and are doing just the wrong thing with it—allowing it to hurry them to an untimely end. They wear themselves out. Their brain is ever in a state of morbid activity almost like that of an insane man. A little careful planning and a proper laying out of work, and especially doing everything in the proper time, would avoid all such hurry and worry, make work much easier, secure an abundance of leisure and greatly increase length of life."—*Scientific American*.

RIGHT AND LEFT HANDEDNESS.

DR L. P. HASKELL, CHICAGO.

Dr. Galippe, in the *Journal des Connoissances Medicales*, publishes his observation on right and left-handedness, and was principally interested in the *dental* anomolies.

He writes: "I found that anomolies are more frequent in the *left* upper and lower maxillaries than in the right; that among right-handed people, the maxillaries are less developed to the left than to the right, and are more frequently the seat of lesions of development, and anomolies of eruptions and nutrition. Among left-handed people the reverse is observed."

I am much interested in these statements, because I have for several years called the attention of dentists to certain facts which come constantly under my observation, and have asked for the cause. I have seen no suggestions till now; my own explanation of these conditions tallies completely with Dr. Galippe's.

I had observed for many years that there was usually more depression in my model for full upper dentures on the left side than on the right in the region of the cuspid tooth, requiring longer teeth on that side, and more fulness of gum to restore the contour. So impressed was I with this fact that I examined several hundred models on my shelves, and found to my surprise, 95 per cent were of this character.

I also have noticed quite often, that models of the lower jaw show on the same side anomolies, and the fact that instead of being symmetrical, the left side seems pushed out, so that it is necessary to set the teeth farther in on the plate to secure symmetry of arrangement.

My theory has been that the vast majority of people are right-handed, and this being so, food is placed in the right side of the mouth; everything that is bitten off is bitten on that side. If the teeth are good on that side, the masticating is done principally there, and so that side of the jaw is developed more than the left, and generally with better teeth because more used. Am I correct?

Prosthetic Dentistry.—Dr. Kingsburg, Philadelphia. To my mind it is an unquestionable fact that a thorough knowledge of prosthetic dentistry is a *sine qua non* to every competent dentist. Without such knowledge he must be regarded as radically deficient in a very important branch of dental art. The student in dentistry should make himself master of all the various processes connected with the construction and adaptation of artificial dentures on the different bases and methods, the utility and value of which have been tested by time and experience. The possession of such knowledge does not necessarily imply that he should personally with his own hands do the work of the mechanical dentist, except in special emergencies.

Though for many years, I have devoted myself almost entirely to operative dentistry, yet it is my practice to take all impressions for artificial dentures, examine and trim the plaster models, fit the base-plates, take the bite, select size and shade of teeth, and also to try in the denture before completion, that I may satisfy myself as to correctness of size, shape, and shade of teeth, articulation, expression, etc. By such a careful supervision and critical care I not only avoid much subsequent trouble for myself, but also guard successfully against all just grounds for complaint on the part of my patients.

When the plaster model is made I examine it critically, and make such slight alterations as I think advisable. It is sometimes a good thing to remove a thin layer of the plaster model so as to deepen the palatine arch slightly at that point where the base-plate will extend back and terminate near the soft palate. The base-plate should be so constructed as not to rest hard against or even to touch the central portion of the hard palate, save only two or three lines in width at the extreme posterior part or edge of the plate. For many years I have used gold plates with rubber attachments for the teeth. My experience with such dentures, as a general rule, has been most satisfactory. Where failures have occurred in this style of denture I think they have been the result of an insufficient number of staples, loops, hooks, or pins securely soldered to the gold plate, or to weakness of the plate allowing it to spring, so that the hard rubber has loosened at the edges and the fluids of the mouth have found entrance and become offensive. Such conditions should be prevented by the use of more loops and staples and thicker plates.—*Cosmos*.

DR. H. D. ALLEN, of New York, makes partial dentures having gold caps to cover the few bicuspid and molars remaining in the mouth to prevent the clasps and plates from impinging on the gums, which is a common source of irritation and inflammation. The roof of the mouth was not covered by the plate. This is after the style we illustrated in ITEMS.

By invitation of the Pennsylvania Odontological Society, Dr. W. Xavier Sudduth, director of the physiological and pathological laboratory of the Medico-Chirurgical College, Philadelphia, and lecturer on histology and hygiene in the Philadelphia Dental College, assisted by several members of the dental class, exhibited a very complete line (about eighty) of histological preparations, both normal and pathological, relating to the teeth and oral cavity. The majority of the exhibits belonged to the students themselves, and consisted of specimens which they had mounted under Dr. Sudduth's direction in his laboratory.

Rubber Work.—Dr. Bonwill says: We cannot always furnish our patients with artificial plates of the material we would prefer them to have, since they must have the kind they are able to pay for. For this reason the majority must have vulcanite. I am convinced that the fear of being poisoned from wearing vulcanite plates is groundless. In all my experience I have never seen an instance. Of course I have seen patients wearing vulcanite whose mouths were inflamed. I have known of cases where, the vulcanite plate being discarded and a gold plate substituted, the trouble disappeared and the gold plate was worn with comfort; but in such cases the vulcanite plate was rough and was not kept clean, while the gold plate, being smooth, was easily kept clean. I am always careful to have vulcanite plates very smooth, both on the palatal and lingual surfaces, and for this purpose finish them with the Scotch stone, and I have not seen any more trouble result from vulcanite plates finished in this way than from gold plates. I had a case brought to my notice by a homeopathic physician. He had been treating the patient for eleven years, but could not cure her because she refused to give up her vulcanite plate. On making an examination of her mouth, I discovered the plate had been made an inch too long, extending back and irritating the soft place. I made her another vulcanite plate, properly fitted, which she wore with comfort and regained her health. As the vast majority of plates worn are vulcanite, it becomes our duty to understand the proper way of fitting and finishing them.—*Cosmos*.

The Profession Crowded.—Give no thought to the statement you have perhaps often heard, that "the profession is overcrowded;" it always comes from a man who would make a failure in any pursuit in life. Did it ever occur to you that half a million of people annually come to the United States to make permanent homes, and that foreign dentists are seldom included? When we add to this number the natural increase in our population, we realize that the members of our profession are not by any means in excess of, nor indeed are they equal to, the number required. The practitioner who, when a student, felt it unnecessary for *him* to do practical work in the chemical and physiological laboratories and anatomical-room, is usually of the opinion the profession is too full. The dentist whose engagements keep him out late at night, and whose eyes on the following morning exhibit evidence of a struggle, and whose breath is musty, is generally of the opinion that the profession is too full. The dentist whose appointments are often broken in consequence of pressing outside business (at the race-course, ball-park, or billard room), soon grows into the belief that the profession is overcrowded.—T. W. BROPHY.

Plaster for Impressions, in Odonto. So., of Pa.—Dr. Essig. I cannot imagine how any dentist can give preference to other material for taking impressions when plaster enables him to meet every difficulty with greater precision than can be obtained with wax or modeling compound.

Dr. Bennett. I think I have tried all published methods, besides others, for taking partial impressions with plaster; and while I claim a good share of success with all of them, I have in some cases encountered obstacles which candor requires me to say I did not completely demolish by merely "taking thought." Where the teeth are broad or thick-crowned, with depressed sides or denuded necks, there are points of difficulty that command one's respect and try his skill. It is easy enough to oil and remove the cup, break away the rim, and even remove the palatial part by a wide groove cut back through the center, but the pieces between the teeth are rather numerous when, removed even when carefully grooved transversely.

Dr. Faught. I agree with Prof. Essig in his estimate of plaster. I have seen, however, impressions properly prepared and the plaster properly mixt and yet a poor cast produced, the impression being ruined by the manner in which the plaster was introduced into it. Before pouring the plaster for the cast, the impression should be immersed in cold water. I am in the habit of taking impressions of the teeth for the purpose of getting exact casts of the cusps, and in making the cast I use a camel's hair brush, to be sure that the almost hair-like depressions will be reproduced. If I only poured in the plaster, it would not enter the fine places.—*Cosmos*.

Rubber Plates.—Dr. Bennett of Philadelphia, says: All materials used in prosthetic dentistry have good qualities as well as defects. This is strikingly true of the rubber used for base plates. Many of these plates are too thick or too bulky in certain places, and most of them are improperly vulcanized, besides being rough, thus becoming constant and active irritants. Compare such work and its effects with the products of our best mechanical dentists, and anyone can see at a glance that in the first case the defects come literally to the surface, and in the other the good qualities. It may hurt our professional pride to make the admission, but I am inclined to think that much that would pass as dentistry would not be tolerated in any other art, though I fully believe that the performances of the best dentist will compare favorably with the products, for example, of the best gunsmiths and jewelers. But it is still true that much bad work is hidden in the mouth. Again, the dentist may do his part ever so faithfully, and the careless habits of the patient will defeat his best efforts. Irritation and congestion of the tissues under dental plates are largely due to uncleanness. Of

course the mouth and the teeth are much harder to keep clean than the face and hands, but the former are not so open to inspection. Besides there are cases of an inherent predisposition to inflammation where neither good work nor cleanliness will prevent all trouble.

Vulcanite and amalgam occupy the same relative positions in the two departments of dentistry. Their easy working qualities have often injured the profession and imposed on the public; and yet in the hands of the competent and careful these materials can be so manipulated as to serve a good purpose.—*Cosmos*.

The Standard of Mechanical Dentistry is not as high as it was in 1858, and rubber work is as crudely done now as it was then, and while, in the numerous applications to which rubber has been put in the industrial arts, it has been carried to a great state of perfection, nine-tenths of the rubber dentures we see bear the impress of the bungler rather than that of the skilled professional workman; and this condition of things is due to the absence of systematic and thorough training.—*Dr. Essig*.

Bleaching of Pulpless or Discolored Teeth.—It may not be generally known that peroxide of hydrogen is the great bleaching liquid that barbers have been using for several years to produce blond and white heads. Some time ago this led us to try it in bleaching teeth, and we are ready to say it far exceeds our expectations and does more than anything we have ever tried. Along with this its disinfectant properties make it doubly valuable.—F. Y. CLARK.

Treating an Abscess.—Remember, creasote and carbolic acid are escharotics, and that there are a few cases in which nothing will do the work like a good escharotic. This is proven in the necrosis of the alveolus. And again no antiseptic in the whole list will retain its power as long as carbolic acid or creasote, and when it is desirable to bring about healthy action by granulation there is nothing like them.—F. Y. CLARK.

Getting room by extracting.—You do not get room by extracting. If I wanted small arches, I would extract. I would not extract either the first or the third molars, or any other tooth. Expand! Expand! is my motto, we must have contact. I stand with and by Dr. J. B. Davenport of Paris. J. S. MARSH.
Chicago.

Medicine and Dentistry.—In the beginning it was medicine *first* and practical dentistry *afterward*. Now, as the politicians would say, it is practical dentistry *first, last, and all the time*, accompanied by the teaching of anatomy, chemistry, and physiology, and the principles of medicine and surgery, thereby presenting to the student's mind those branches of knowledge which we regard essential to a well-informed practitioner of dental or oral surgery.—T. W. BROPHY.

The Human Breath.—Professor Brown-Séquard has recently been making experiments to determine whether the human breath is capable of producing any poisonous effects. From the condensed watery vapor of the expired air he obtained a poisonous liquid, which, when injected under the skin of rabbits, produced almost immediate death. He ascertained that this poison was an alkaloid, and not a microbe. The rabbits thus injected died without convulsions, the heart and large blood vessels being engorged with blood. Brown-Séquard considers it fully proved that the expired air, both of man and animals, contains a volatile poisonous principle which is much more deleterious than carbonic acid.—*Sc. Am.*

Post Graduates.—There is something inconsistent in the idea that twenty-five or thirty years of honorable practice is not to be considered of any value toward obtaining a degree the boys in our schools obtain in two years.

Some of the most talented and honorable educators in our profession comprise the Board of Dental Faculties, and we are assured these and other matters tending to the establishment of a more perfect and uniform system will be considered and acted on at the next meeting.—E. P. in *Archives*.

Editor ITEMS:

In May ITEMS, Dr. L. C. Anderson wishes to hear the verdict of any one on the use of chloroform for after pains in extraction of teeth.

I have used it for eight years or more, and don't remember of having failed in giving relief in that time. I roll sufficient cotton to fill the cavity, and dipping in chloroform, carry it in tweezers to bottom of socket of tooth immediately after extracting; in a few moments I remove it. Pain ceases and there is little bleeding.

Wytheville, Va.

W. P. NYE.

Teeth divested of moisture are less sensitive, therefore it is good practice to adjust the dam as soon as a good access has been made, and much time saved especially with patients who love to hear themselves talk.—*Dr. G. A. Bowman*.

Woman in the dentist's chair—"Oh, those horrid, cruel-looking forceps! Won't they nearly kill me, doctor?" Dentist—"Madam, as I am a man of truth and honor, you won't feel them." Tooth comes out like a cedar knot. Woman shrieks blue ruin and bloody murder. "You wretched man; you said I wouldn't feel them!" Calm dentist—"Neither you didn't; that was the tooth you felt; forceps never hurt anybody."—*Burdette*.

For Our Patients

THE DEMANDS OF OUR TIME.

These times demand true men in every rank,—
No room for sordid, selfish minions, sank
In soft indulgencies and listless ease,
Content on nothing but the art to please.

The contests of this glorious day demand
True brawn in brain, and heart, and nerve, and hand;
And all these put into keenest drill,—
Then sacrifice of self, and daring will?

In all vocations there is room for soul
And heart and head to play the role
Of mighty hero. Yet, O man, to fill
This lofty place, there must be mighty well.

T. B. W.

WORK FOR YOUNG LADIES.

Would it not be wiser far to induce young girls in thousands of happy, prosperous homes to make ample provision for any and all emergencies that the future may have in store for them? Could a better use be found for some of the years that intervene between the time a girl leaves school and the time she may reasonably hope to marry? The field for woman's work has been opened up of late years in so many different directions that a vocation can easily be found, outside the profession of teaching, that will be quite as congenial to refined tastes, and considerably more lucrative. Book-keeping, type-writing, telegraphy, stenography, engraving, dentistry, medicine, nursing and a dozen other occupations might be mentioned. Then, too, industrial schools might be established, where the daughters of wealthy parents could be trained in the practical details of any particular industry for which they displayed a special aptitude. If it is not beneath the sons and daughters of a monarch to learn a trade, it ought not to be beneath the sons and daughters of republican America to emulate their good example, provided they possess the requisite ability to do so. Two years will suffice to make any bright, quick girl conversant with all the mysteries of the art of housekeeping, especially if she be wise enough to study the art practically as well as theoretically. The management of servants and the care of the sick and children will be incidentally learned in most homes, and can be supplemented by a more extended study of physiology, hygiene, etc., than was possible at school. Sewing need not be neglected, either, while leisure will readily be found for reading or any other recreation that may suit individual tastes.

Another year, or longer, may be added to the time devoted to these pursuits, if desired. But, above all, let two or three years be conscientiously set apart for the express purpose of acquiring a thorough experimental knowledge of some art or vocation which would render its possessor self-supporting, and consequently independent. * * * The cry will be raised that there is danger that such a plan as the one advocated here will tend to give girls a distaste for the quiet retirement of home, but there is little cause for fear. Not one girl in twenty will voluntarily choose a business life in preference to domestic happiness. Indeed, it is absolutely certain that happy marriages would be promoted by this very independence among women. Not being at leisure to nurse every passing fancy, girls would elect to wait patiently until the light of true love came into their lives.—*Century*.

A Minister with the Toothache.—Rev. Q——, some time since, at 2 A. M., sent for us in great haste.

“Why, Bro. Q——, what is the matter?” “No words; out with these three left undergrinders as quick as lightning!”

[Examining]. “No, Brother, that will not do; I can cure your toothache and save your teeth. You have neuralgia by severe exposure to the intense cold.”

“O! Oh!! Oh!!! he groaned. There is nothing in earth or hell like the toothache! To stop it I’d have my head off. Out with them all quickly.”

“No I must use my own judgment. Here is a lotion to rub on the gums: hold a little in the mouth for a while; repeat its application frequently. Poultice that side of your face, and keep it hot; cover up thoroughly and get in a good sweat. I’ll come again in the morning. Good by.”

[In the morning]. “Well, brother, how are the teeth?”

“Aching like thunder?”

“Well, we must be patient. To save these teeth is, of course, quite an effort; but you are evidently improving—last night, you remember, they ached like lightning, now it is only like thunder;—and you know thunder is only the departing struggle of the lightning; and it gradually grows less.”

When we called at noon he had just wakened from a three hours sleep, and was much refreshed, and the toothache had nearly ceased. Subsequently the teeth were put in good condition, and all were permanently saved.

The lesson we should learn is this: It will not do to be guided by your patient’s wishes; keep cool and use your own judgment.—Ed. Items.

Removing Baby Teeth.—The communication of Dr. Mason, in May ITEMS, on "When to Remove Children's Teeth," calls to mind two cases I have on hand.

A young man of 16 to 18 years, called to have some work done. I found he had not parted with the left lower cuspid and first bicuspid of the temporary set, causing his lower jaw to be thrown out beyond the upper arch nearly half inch. I removed the temporary teeth and now have hopes of bettering the shape and looks of his jaws.

The other patient is a little girl, where permanent lower centrals are erupting directly back of the temporary centrals standing a trifle backward. I advised the retention of the temporary teeth for the present as the arch is very small and the teeth are not yet loosened. The parents were advised by an M. D. to have them (the temporary teeth) extracted at once. Neighbors told her not to mind what I said but to go to another dentist.

I persuaded the child's parent's to listen to my advice and I would take charge of the teeth, and thought I could guarantee straight teeth if they would not have them taken out. Some advised the removal of the four centrals to make room for the two new teeth.

I think Dr. Mason is right when he says "The deciduous teeth should be allowed to remain till the indications warrant their removal."

Morrisville, Vt.

J. A. ROBINSON.

I have taken the ITEMS from the beginning and have had them all bound up to this year, and consider them worth their weight in gold.

Dallas, Texas.

J. C. KING.

As soon as children have teeth, they should be taught to use them. It is all well enough to soften their food and keep them largely on liquid while toothless. But the very presence of teeth indicates that they should be used. If still the child is kept on soft food and liquids, and the teeth are not used, the whole system suffers, and the teeth decay. Vigorous use is essential to their solidity in the jaw, to their healthy growth and maturity of structure, to the proper development of the salivary glands, and to the digestion of the food. If the system is kept in health, and the teeth in vigorous exercise there is little danger of decay.

"I regard the use of beer as a true temperance principle. When I work all day and am exhausted, nothing helps me like a glass of beer. It assists nature, you understand," said Remson to Benson. "It makes a fool of me," Benson replied. "Just so," exclaimed Remson, "that's what I say; it assists nature."—*Albany Medical Journal*.

Editorial.

PROMPT PAYMENTS.

It is not long since we dwelt on this theme, but some circumstances have brought its importance so vividly before us that we wish to say a few words more.

It is singular to see how soon patients find out whether we do business on long credit or for cash; or rather (for it soon comes to this), whether we are loose, irregular, and indifferent in our collections or are prompt and business-like. Our position and custom is just what we choose to have it. We make our own character and the character of our business in this particular as in every other.

Alas! there are but few business men among dentists. The credit system used to be the bane of common merchants. It was thought impossible to do business on a cash basis. But now, in nearly all civilized places, goods are sold for cash on delivery.

In Watertown, N. Y., some years ago, there was a half crazy physician who would not trust. If you sent for him you were expected to have money ready for the visit, and thus every time he came. Though he believed he was soon to be President of the United States, he was willing to make a few professional calls till elected, if he could be paid his price, cash at each visit, but not otherwise. And yet he had a good practice. It is not necessary to be half crazy to do a cash business. We have known some sensible people do it and get rich. Study your work so thoroughly and do it so carefully as to beget confidence in its good quality; then stand by it as your stock in trade, to be disposed of only for value received.

1st. It will beget confidence in others that you do good work. They will respect you because you respect yourself, and they will value your work because you value it yourself. Of course you must not be dogmatic and self asserting. You can be modest and genial, though so plain of speech as to be precisely understood, and so business-like that your patients will be pleased with your position.

2d. You need not be afraid of offending, unless it be those you are better off without. They will come prepared to pay you when your work is done, *as a matter of course*. The shiftless class, whom all find so much trouble with, will go to a dentist of their kind, and you should be thankful there were dentists who will take the leavings of respectable practitioners.

3d. Your patients will consider your bill more reasonable when presented while the difficulties, tediousness, expense, and length of the operation is fresh in their minds, than if presented after they have forgotten half of what was done.

DR. W. C. BARRETT.

Dr. Barrett, whose portrait we present this month, is the honored editor of the *Independent Practitioner*. The energy, intelligence and professional ability of the man can be seen in the fact that he took this journal when it was neither medical nor dental, but a rather rude mixture of both, and at low esteem and patronage, and in five or six years has raised it to a standing among dental journals second to none, and above most. Nearly half of the editors of the dental journals of the United States are Methodists. Dr. Barrett comes within one of it, for his father is a distinguished minister of that church.

Dr. Barrett entered the practice of dentistry in 1863, and has practiced in Buffalo, where he now is, since 1876. He graduated as an M. D. at the University of Buffalo, and as a D.D.S. from the Pennsylvania College of Dentistry. For more than ten years he has been specially prominent in the dental profession, receiving many honors and doing much good. Perhaps it would be more proper to speak of him as Prof. Barrett, for he is and has been for a number of years teacher of Oral Diseases and Pathology in the University of Buffalo. His visit to Europe, in 1881, was a means of great good to the profession there, and it must have been a great stimulation to his own energies, for on his return he seemed to be consumed with a zeal to do everything to elevate the profession here. He is a good lecturer, a first rate debater and a genial conversationist; but his chief medium for good is through his journal. Every number shows the most painstaking labor.

Keep a Record.—It is lazy, impolitic, and often a loss to neglect it. A chart book is very convenient and profitable as a record for all work. A place for remarks on difficult or unfinished work is almost a necessity. Allport's Ledger is good, though we never had use for the signs. Keep your account of work so plain and minute that months afterward—yes, years—you will be able to tell everything you have done for each tooth of every patient. It is a little trouble; all details are trouble, but how often a reference to them are very convenient and sometimes of decided importance.

Keep an accurate account of your income and expenses, and see that the former always exceeds the latter. It is astonishing to see how little we can live on, and yet eat an abundance of good, wholesome food, and dress respectably. It is quite as astonishing to see how much more we generally eat than is good for us, and how wasteful we can be in clothing, and in eating. Our superfluities take more of our income than our necessities. That which really injures health and pampers pride are what ruin most men; and the savings that come from a reasonable economy is what ensures health, wealth, and happiness.

WHAT AN ANNOUNCEMENT!

A Smoking Concert was given on the 10th ult. by the Students' Society of the National Dental College; and the Students' Society of the Dental Hospital of London Medical School also gave a Smoking Concert on the 11th ult. Both events were successful.—*Dental Record*, London.

If students are thus encouraged to smoke, what may be expected of them after they graduate? Their habits will certainly not be *more* refined and acceptable.

It is presumable that beer and wine drinking is associated with tobacco in these "smoking concerts." If it is not, smoking most assuredly tends to these indulgences. And though there may be high resolves that all these shall be indulged in "moderation," the sequel shows there is no safe ground but total abstinence.

And then, as if to show that this demoralizing habit is in consonance with the general standing of the profession in the great English Nation, the editor adds, "Both events were a success." The standing, in this regard, of the dental profession in America is low enough; but, as an American editor, we should blush to see such an announcement of an American dental college. Though smoking is indulged in by some dental students and practitioners, it is deprecated by nearly all, and it is being looked on more and more as a disgrace.

It is an unseemly, injurious, expensive habit, an offence to refined patients, and an embarrassment to dental practice. From every point of view, it is an indefensible habit.

Our Clothing, is no doubt generally too heavy. We would feel much more comfortable with less clothing if we subjected ourselves to more cold baths and severe rubbing, and if we inured ourselves more to the vicissitudes of the weather. Our skin needs invigorating and toughening, and the circulation toning, so that, instead of being enervated, delicate house-plants, we can take the blasts of winter and call them good. For the twelve years we lived in Minnesota, we did not wear a flannel undershirt, and the only extra clothing for out-door exposure was a shawl.

Now we would not have the reader go to a sudden extreme and "catch cold," and then blame us for his temerity. If you have overclothed yourself, throw off a little of your extra clothing gradually and with caution, at the same time toughen your skin with ablutions and the severe use of a crash towel, a very little water at first and a good deal of rubbing, and after vigorous exercise. Try less clothing in the house before trying less outdoors. Gradually you will bring about such a vigor of the whole system that you cannot endure your former amount of clothing, and the glow of the surface will make a cold fresh breeze feel good.

Dentists are too delicate; and the more they indulge themselves in their delicacy, the more delicate they become. Take every means to strengthen muscles, nerves and spirit, even if you have to saw wood or do any other menial work. You can afford to pay well for wholesome vigor, and stalwarth brawn.

DIRTY AMALGAM.

Thomas Fletcher F. C. S., of England, says on another page, that the discoloration of amalgam in mixing is owing to its oxidation, and adds, "If an amalgam is oxidized, it has been neglected, and treated in a manner which renders it unfit for use."

If he will amalgamate some immediately after its manufacture, he will find this same discoloration, though he uses the purest mercury. How can this be if the discoloration comes from oxidation? Is it from the burning up of a portion of the metals? Then take fresh filings of silver just refined in the U. S. Essay Mint—as absolutely pure as they can make it; we have just received some. Now with the purest mercury mix it with the finest tin. We have just done so, and we have a "dirty amalgam." We mix this absolutely pure silver alone with "double refined mercury" and find the same result—it is dirty. We mix the fine tin with this mercury and the result is a dirty amalgam. Alcohol or soda water will wash clean either the silver, or the tin, or the mercury; but without this washing neither is clean.

We should like Dr. Fletcher to explain these facts, if the cause of the black stain is rust—for what is oxidation but rusting?—a slow form of burning by exposure to the air?

To prove the fallacy of this black stain being caused by long exposure to the air, we have just mixt some amalgam freshly made, and some which has been kept in a paper bag for three years—both similarly compounded—and there is little difference in the amount of discoloration given off.

Civilization and Christianity for Africa.—We have before us the report for the last three years of Bishop Taylor's Self-Supporting Missions. One of the peculiarities of this great Missionary's work is that he carries all the paraphernalia of a pure civilization with him wherever he goes. In Africa, as he marches through the dark Continent from west to east and up the Congo, he plants oases of civilization of about one mile square, one to two hundred miles apart, each containing a common school, an agricultural school, and an industrial school, inviting tradesmen and shop-keepers, as well as planting a church and supporting a missionary proper. In these places, by agreement with the native king or the dominant government, the missionary is supreme. No spirituous liquor is allowed, and *Christianity* is the law of social and political power.

Of course it costs much to get his machinery and missionaries on to the ground, and to build suitable houses for families, schools and trades, and to support all connected with the stations for the first year, till crops can be raised. All these expenses are borne by voluntary gifts, principally from the laity of the Methodist E. Church. But, after the first year, each station is made self-supporting, unless drouth or some uncontrollable circumstance makes it impossible. The bishop has thus manned forty stations during the last three years at the cost of about \$100,000. He is now in this country preparing for a large accession to go with him when he returns next fall; in fact some have already gone forward.

We published in May *ITEMS* an article criticising electricity in extracting teeth. We receive a note from one who seems familiar with this subject assuring us that there are electrical appliances that are decidedly beneficial. Let us have a confirmation of this statement by some who have used electricity for a sufficient time to prove its efficacy.

We would not disparage the worth or the aim of contemporary journals. It is well for each to be characteristic in its way. We have tried to keep steadily in mind that we are publishing the *ITEMS OF INTEREST* for the average dentist, who is supposed to be too busy, or, at any rate, disinclined to read many exhaustive treatises, and who wants short, practical, useful articles. By such letters as the following, we are encouraged to believe we fill this want. Dr. J. J. Pretlow, of Winchester, Ind., says: "I think the *ITEMS OF INTEREST* contains more practical points of interest to the average dentist than any other journal."

Death of Mrs. Taft.—How near death we may be when it seems far off, is illustrated in the killing of Mrs. J. Taft, of Cincinnati. In the prime of health and spirits, she leaves her husband to be almost instantly crushed by a locomotive. Such sudden deaths seem sad and unfortunate, and yet there must be some wise and beneficial reason why our kind Father should be now and again reminding us that our life is uncertain, even for a single day. O, how much of the sadness and misfortune of such an event is removed by knowing "She lived as she would die."

While Dr. H. J. Ball was delivering his address as President of the last Illinois Society he was stricken with paralysis.

The reason the lions didn't eat Daniel when he was cast in their den was that he was two-thirds backbone and the rest pure grit.

Items of Supply.—The Horsey Manufacturing Co., of Utica, has a large variety of tooth-cleaners and polishers, in the shape of an adjustable felt tooth-brush. While it seems an innovation on the bristle brush, it evidently would not cause the mechanical abrasion laid at the door of the latter.

Dr. L. C. Gilhart, of Susquehanna, Pa., has steel wedges and burs tempered by a new process. They seem none the worse after very hard usage.

Dr. J. O. Flower, of Pittsburg, has a diamond drill which is brazed into a steel bit, cutting equally well on the side as the point.

Dr. C. C. Carroll, of New York, uses aluminum for crowns, bridge and plates. For instance, he mounts plain teeth on a model as for rubber work, invests it in a perforated iron flask, and by a pneumatic crucible forces the molten aluminum into the matrix, attaching the teeth, making a complete piece, whether for crown, bridge, or plate, in a simple manner. He uses a small gasoline furnace for heating.

Packing Alloy or Amalgam.—Dr. Bonwill's method is to mix rather dry, putting it in the tooth cavity in rather small pieces, condensing each piece with a round smooth instrument, by the rotary process. This forces the surface of each piece all superfluous mercury, which is removed by placing on the burnished surface bibulous paper or other absorbent, to be worked well by the burnisher. This course is repeated till the filling is completed.

The Minnesota State Board of Dental Examiners will hold its next regular meeting, for the purpose of examining applicants for permission to practice in the State of Minnesota, at 10 a. m., Tuesday July 17, 1888, at Ryan Hotel, St. Paul, the day preceding the meeting of the State Dental Society.

C. W. MERRY, Secretary.

Stillwater, Minnesota.

The National University, Dental Department, Washington, D. C., is getting along nicely. During their fourth term last winter they graduated 13.

Dr. G. A. Mills, of New York, writes quite a readable letter to the *Western Dental Journal* of May concerning New York dentists.

The Dental Practitioner is a new, lively, versatile journal, published by Dr. C. W. Morrison, Toledo, Ohio, containing 36 pages. Price, \$1.00.

Miscellaneous.

How to get a Cinder out of the Eye.—*Medical Summary:* Nine persons out of every ten, with a cinder or any foreign substance in the eye will instantly begin to rub the eye with one hand while hunting for their handkerchief with the other. They may, and sometimes do, remove the offending cinder, but more frequently they rub until the eye becomes inflamed, bind a handkerchief around the head, and go to bed. This is all wrong. The better way is not to rub the eye with the cinder in at all, but rub the other eye as vigorously as you like.

A few years since I was riding on the engine of the fast express, from Binghamton to Corning. The engineer, an old schoolmate of mine, threw open the front window, and I caught a cinder that gave me the most excruciating pain. I began to rub the eye with both hands. "Let your eye alone and rub the other eye," (this from the engineer). I thought he was chaffing me and worked the harder. "I know you doctors think you know it all, but if you will let that eye alone and rub the other one the cinder will be out in two minutes," persisted the engineer. I began to rub the other eye, and soon I felt the cinder down near the inner corner, and made ready to take it out. "Let it alone and keep at the well eye," shouted the doctor *pro tem*. I did so for a minute longer, and looking in a small glass he gave me, I found the offender on my cheek. Since then I have tried it many times and have advised many others, and I have never known it to fail in one instance (unless it was as sharp as a piece of steel, or something that cut into the ball and required an operation to remove it). Why it is so I do not know. But that it is so I do know, and that one may be saved much suffering if they will let the injured eye alone and rub the well one. Try it.

To keep Moths from the Carpets.—If plenty of tobacco, or red pepper, or Persian insect powder is put up with carpets, moths will not trouble them. If tallow candles are wrapped up with them—so protected, of course, that the tallow will not soil the carpets—the odor of the candles will keep the moths away. Moths come with warm weather in May and June. Small articles may be so protected by being wrapped in many folds of paper that moths will not trouble them, as these insects do not eat through paper to find a place to deposit their eggs.

Ink stains may be removed from mahogany, rosewood, or black walnut furniture thus: In a spoonful of water put six or eight drops of nitre. In this dip a feather and with it touch the ink stain, repeating till the stain disappears. Then rub the place immediately with a cloth wet in cold water or the nitre will leave a white stain.

Washing Fluid.—Bring to a boil one pound of sal soda, half a pound of unslacked lime, a small lump of borax, and five quarts of water. Cool, pour off, and bottle the clear liquid. Use one teacupful to a boilerful of clothes. This is superior and does not injure the clothes.

Wood Resembling Metal.—"The recently invented process," says *Iron*, "by which wood is made to take on some of the special characteristics of metal, has been turned to practical account in Germany. By this process the surface becomes so hard and smooth as to be susceptible of a high polish, and may be treated with a burnisher of either glass or porcelain, the appearance of the wood being then in every respect that of polished metal, having, in fact, the semblance of a polished mirror, but with this peculiar and advantageous difference, namely, that unlike metal, it is unaffected by moisture. To reach this result the wood is steeped in a bath of caustic alkali for two or three days together, according to its degree of permeability, at a temperature of between 164 degrees and 197 degrees Fahrenheit. It is then placed in a second bath of hydrosulphate of calcium, to which a concentrated solution of sulphur is added, after some 24 or 36 hours. The third bath is one of acetate of lead, at a temperature of from 95 degrees to 120 degrees Fahrenheit, and in this latter the wood is allowed to remain from 30 to 50 hours. After being subjected to a thorough drying, it is in a condition for being polished with lead, tin or zinc, as may be desired, finishing the process with a burnisher, when the wood apparently becomes a piece of shining, polished metal."

New Theory of Petroleum.—In a recent issue of the *Engineering and Mining Journal* we notice a novel theory as to the origin of petroleum and natural gas. It is said to have been advanced by Prof. Mendeleef, who claims to have produced petroleum by a similar artificial process. The professor believes that the oil is of mineral origin, and is formed in the following manner: Water penetrates the earth's crust in certain localities where upheavals have taken place, and there comes in contact with glowing carbides of metals, particularly the carbide of iron. The water is decomposed into its constituents hydrogen and oxygen, and the oxygen unites with the metal forming an oxide, while the hydrogen rises upon the carbon, forming a carbonetted gas which ascends to higher and more porous strata where it is partially condensed and give rise to petroleum and natural gas.

This is certainly a novel and ingenuous theory though the professor does not state why the gases do not escape through the same channels as the water entered. It is true, however, that the oil bearing strata usually occur in the vicinity of what the geologist calls anticlines, and that the interior of the earth is believed to be composed largely of metals and perhaps metallic carbides, all of which may give color to the new theory. If it be correct, then there is stored in the bowels of our earth the material for an exhaustless supply of fuel which will be available when our coal seams have failed.—*Power and Transmission.*

Rats.—A writer in *Chambers's Journal*, after many useless experiments in trying to rid his house of rats, at last caught two alive in a trap, besmeared them all over except their heads with tar, and let them loose in their favorite run. For nine years thereafter his house, though an ancient one, was free of rats. Chloride of lime sprinkled in their runs is very distasteful to them; so also is cayenne pepper.

Industrial Schools.—The Master Builders' Exchange, of Philadelphia, has determined to establish a mechanical trade school in which practical instruction shall be given in plumbing, bricklaying, carpentering, stone cutting, blacksmithing, painting, plastering and such other trades as necessity may call for, and a committee is to be appointed for that purpose. The offer of Colonel Richard T. Auchmuty, the founder of the New York trade schools, to give \$3,000 annually for three years toward the support of the proposed school was accepted. The resolutions, which were adopted, set forth that, as the apprenticeship system, especially in all large cities, is practically obsolete, the establishment of trade schools is the only method of securing American journeymen.

Prevent Rusting —Immerse steel or iron in a solution of carbonate of potash for a few minutes, and they will not rust for years, not even when exposed to damp atmosphere.

To restore the lustre of Dead Silver Work, gilt clock cases, etc., dissolve one ounce of cyanide of potash in one quart of pure water; empty it into a bottle, and label it "poison." When to be used, place the article in an earthen vessel, cover it over with the solution, and in five minutes the lustreless appearance will be removed. preserve the fluid for future use.

Bluing Small Steel Pieces Evenly.—First blue the object without any special regard as to uniformity of color. Should it prove to be imperfect, take a piece of clean pith, or a piece of dead wood that will not crumble very easily, and whiten the surface with rouge without letting it be very dry. Pieces when thus prepared, if cleaned and blued with care, will assume a uniform tint.

The Stings of Insects.—Whether caused by bees, wasps, gnats, ants, or other insects; a strong solution of *cocaine* applied on cotton held in place with a bandage. The pain ceases at once, and there is no tumefaction.

To Prepare a Beautiful Gold Beetle Colored Bronze.—Mix equal parts of chromate of potash and table salt. After the powder is finely mixt, let it pass through a sieve, then put this powder into a crucible and cover it with a layer of salt. Cover the crucible and allow the contents to boil half an hour. After cooling, wash the contents carefully with water, and the mass on being rubed will show a beautiful bronze.

For Fetid Sweating.—For the fetid secretion of the axilla or of the feet.

R. Potassii permangantis.....I drachm.
Aque.....I pint.

M. Sig.—Apply to the parts night and morning.

Quick and cheap kindling material for stoves may be made by soaking cobs in a hot solution of saltpetre mixed in the proportion of one pound of saltpetre to six gallons of water. These can be easily lighted with a match after they are dry, and will make a hot fire.